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A new species of the newly recorded genus *Tekellina* (Araneae: Theridiidae) from Japan

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Abstract — A new species belonging to the family Theridiidae is described from Japan under the name, *Tekellina sadamotoi*. The genus *Tekellina* is recorded for the first time from Japan.

Key words — *Tekellina*, Theridiidae, new record, new species, Japan

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Introduction

The genus *Tekellina* had been erected by Levi in 1957, with a monotype of *T. archboldi* Levi 1957 described from the United States. Afterwards, Marques & Buckup (1993) described five species of this genus from Brazil and Gao & Li (2014) described one from China. Up to the present, seven species of *Tekellina* have been known from the world.

Recently, one species of *Tekellina* have been collected from Fukushima, Tokyo, Kanagawa, Yamanashi, Aichi, Gifu, Okayama and Okinawa Prefectures, Japan. As a result of our examination, this species is regarded as new to science. We describe it in this paper. The genus *Tekellina* is recorded for the first time from Japan.

Holotype and paratypes are deposited in the Department of Zoology, National Museum of Nature and Science, Ibaraki (NSMT). Other specimens are preserved in our private collection.

Tekellina Levi 1957
[Japanese name: Mame-himegumo zoku]

Tekellina Levi 1957, p. 107; Levi & Levi 1962, p. 52; Marques & Buckup 1993, p. 126; Gao & Li 2014, p. 90.

Body length less than 1.5 mm. Carapace weakly sclerotized and modified. Chelicerae without teeth. Abdomen wider than long. Colulus replaced by two setae. Male palpus: embolus long, thin and coiled; conductor short; cymbium almost circular; paracymbium hooked. Female genital organ: duct long and coiled around seminal receptacles; seminal receptacles sometimes indistinct. Basal color usually pale yellow; abdomen usually with white pigments.

Type species. *Tekellina archboldi* Levi 1957.

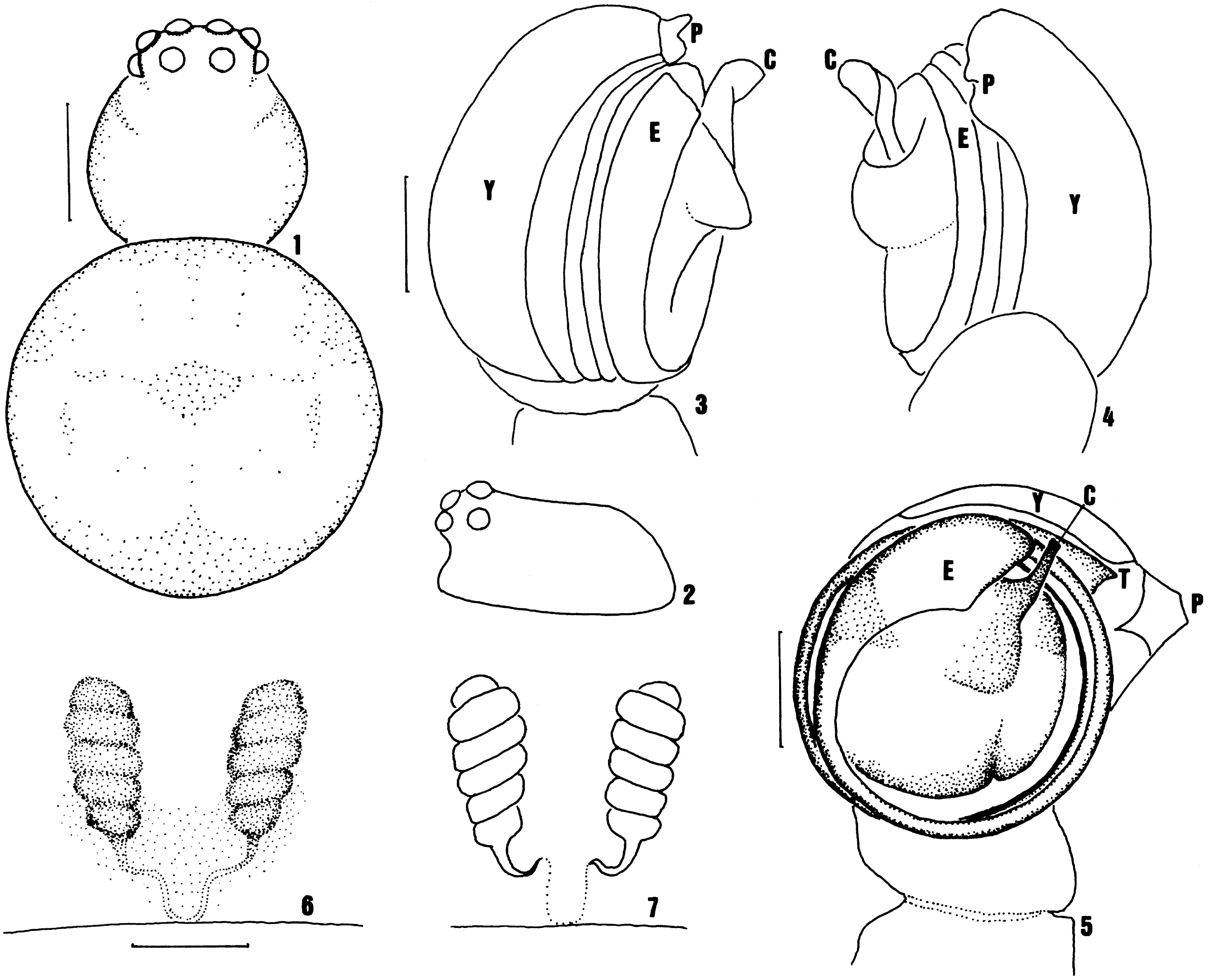
Tekellina sadamotoi new species
[Japanese name: Sadamoto-himegumo]
(Figs. 1–13)

Diagnosis. The present new species resembles *Tekellina helixicis* Gao & Li 2014 described from Yunnan, China, but is distinguished from the latter by the following characteristics (*T. helixicis* in parentheses): 1) abdomen globular (distinctively wide); 2) conductor of male palpus with round projecting (with thin projecting); 3) palpal embolus with thick base (without thick base); and 4) duct of female internal genitalia thick and coiled five times (thin and coiled over ten times).

Male (holotype). Body length 1.00 mm. Carapace length 0.45 mm; width 0.47 mm. Abdomen length 0.61 mm; width 0.61 mm; height 0.53 mm. Legs [total (femur + patella & tibia + metatarsus + tarsus), in mm]: I 2.00 (0.63 + 0.71 + 0.45 + 0.21); II 2.13 (0.67 + 0.74 + 0.45 + 0.26); III 1.39 (0.47 + 0.45 + 0.26 + 0.21); IV 1.66 (0.61 + 0.47 + 0.34 + 0.24).

Carapace oval, eye region projecting anteriorly; clypeus concave (Figs. 1–2). Eyes almost equal in size. Leg formula, 2, 1, 4, 3. Second leg slightly longer than first. First patella and tibia 1.6 times longer than carapace length. Abdomen globular, nearly as long as wide (Fig. 1). Palpal organ as shown in Figs. 3–5: embolus thin, long and largely coiled twice with thick base; conductor with a large and round tip; theridiid tegular apophysis apically projecting; cymbium circular; paracymbium projecting and hooked.

Female (paratype, NSMT-Ar 14553). Body length 1.26 mm. Carapace length 0.45 mm; width 0.45 mm. Abdomen length 0.87 mm; width 0.92 mm; height 0.79 mm. Legs (in



Figs. 1–7. *Tekellina sadamotoi* new species, male holotype (1–5) and female paratype (6–7, NSMT-Ar 14554). 1, carapace and abdomen, dorsal view; 2, carapace, lateral view; 3–5, palpus, prolateral (3), retrolateral (4) and ventral (5) views; 6, epigynum, ventral view; 7, internal genitalia, dorsal view. Abbreviations: C, conductor; E, embolus; P, paracymbium; T, theridiid tegular apophysis; Y, cymbium. Scales = 0.2 mm (1–2) and 0.05 mm (3–7).

mm): I 1.82 (0.66 + 0.58 + 0.34 + 0.24); II 1.71 (0.63 + 0.58 + 0.32 + 0.18); III 1.34 (0.45 + 0.45 + 0.26 + 0.18); IV 1.51 (0.53 + 0.45 + 0.32 + 0.21).

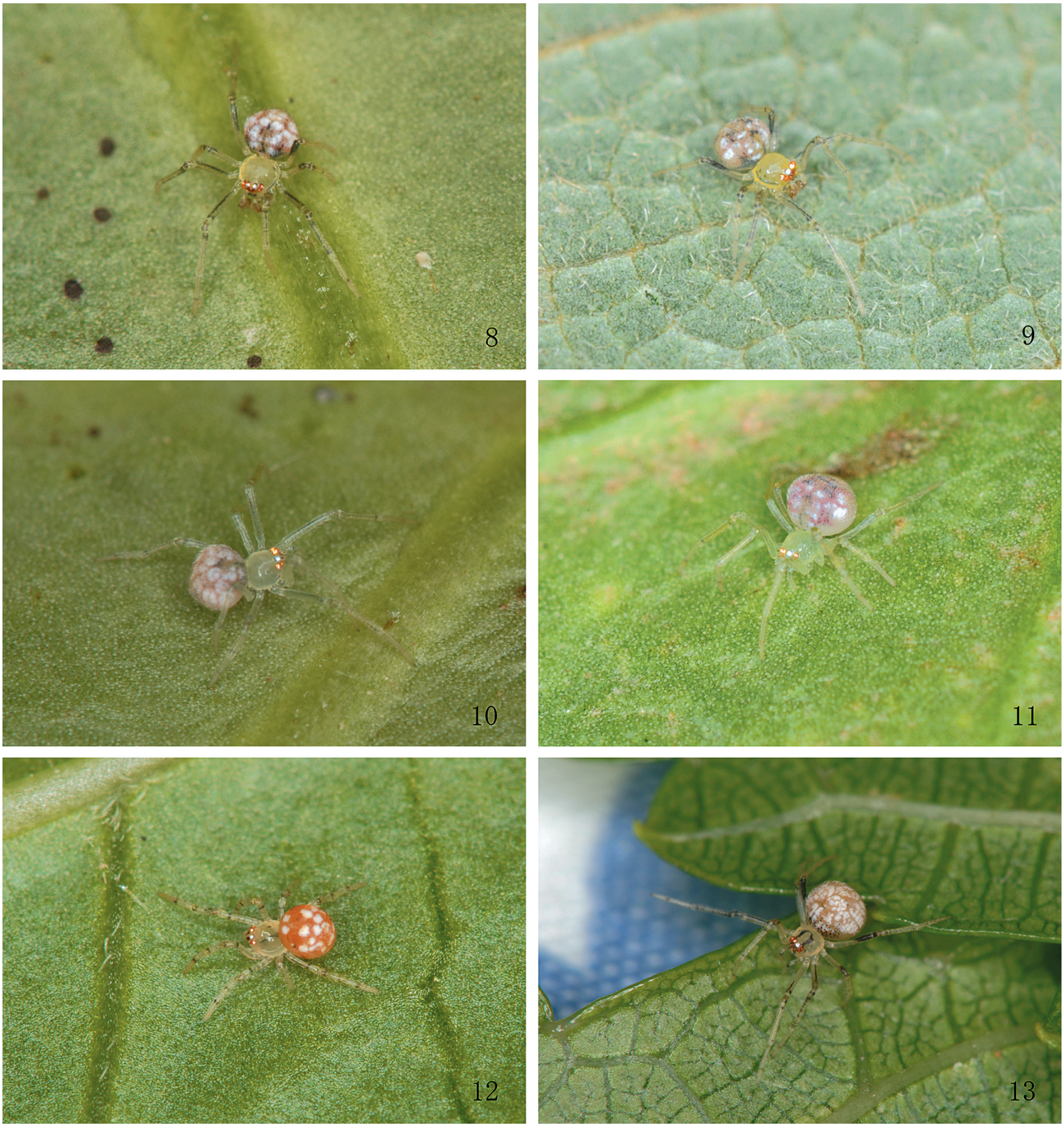
Leg formula, 1, 2, 4, 3. First leg slightly longer than second. First patella and tibia 1.3 times longer than carapace length. Abdomen slightly wider than long. Genital organ as shown in Figs. 6–7: internal genitalia visible through epigynal surface; duct long and coiled five times; seminal receptacle indistinct. Other characteristics same as male.

Variation (holotype and paratypes). Body length 0.97 to 1.08 mm in male, 1.11 to 1.32 mm in female.

Coloration (male and female; Figs. 1, 8–13). Basal color yellowish white. Carapace sometimes with paraxial two black lines. Anterior eyes and posterior lateral ones surrounded with brown in alive. Legs sometimes with black flecks or rings. Abdomen with white pigments, basal color sometimes yellow, orange or light brown, and sometimes with dorsal blackish flecks. These black flecks indistinct or decolored in ethanol. Palpal organ and female internal genitalia blackish brown.

Type series. Holotype: ♂ (NSMT-Ar 14551), paratypes: 2♂ (NSMT-Ar 14552) and paratypes: 10♀ (NSMT-Ar 14553–14555), Yamashita, Minami-asakawa-machi, Hachioji-shi, Tokyo, Japan, 26-X-2003, Miyoshi Sadamoto leg.

Other specimens examined. FUKUSHIMA: 1♀1♂, Kanaya, Fukushima-shi, 28-II-2009, A. Ando leg. TOKYO: 1♀, 15-XI-2002, 5♀3♂, 22-II-2004, 4♀2♂, 16-VIII-2004, same locality and collector as for the holotype; 1♀, Minamino, Hachioji-shi, 27-VII-2008, 3♀, 20-IV-2009, M. Sadamoto leg.; 2♀1♂, Nibukata-machi, Hachioji-shi, 2-V-1994, M. Sadamoto leg. KANAGAWA: 1♀1♂, Kurokawa, Kawasaki-shi Aso-ku, 7-XI-2009, S. Hatsushiba leg., 1♀1♂, 9-XI-2009, R. Kono leg.; 1♀, Mt. Enkai-san, Yokohama-shi Konan-ku, 14-X-2001, M. Sadamoto leg.; 1♀, Shiroyama-machi, Sagamihara-shi Midori-ku, 7-VIII-1998, H. Okawa



Figs. 8–13. *Tekellina sadamotoi* new species, male (8–9) and female (10–13). 8, 10, Eitaro-cho, Toyota-shi, Aichi, 29-III-2013; 9, 11, Nishiachiwa-cho, Okazaki-shi, Aichi, 9-XII-2015; 12, Orito-cho, Nisshin-shi, Aichi, 10-IV-2013; 13, Iriomote-jima Island, Okinawa, 16-IV-2013. [Photo: K. Ogata]

& M. Ban leg.; 1♀, Ogura, Shiroyama-machi, Sagamihara-shi Midori-ku, 14-XI-2006, M. Sadamoto leg.; 1♀, Mt. Hinokiboramaru, Tanzawa, 18-IX-1994, H. Ikeda leg. YAMANASHI: 3♀1♂, Yunosawa, Otsuki-shi, 7-VI-2006, A. Ando leg. AICHI: 2♀, Uradani, Shitara-cho, 14-VI-2009, K. Ogata leg.; 2♀, Mt. Rokusho-san, Sakaue-cho, Toyota-shi, 18-X-2009, 1♀, 6-IV-2011, K. Ogata leg.; 1♂, Oda, Iinoe-cho, Toyota-shi, 29-III-2013, K. Ogata leg.; 2♀2♂, Eitaro-cho, Toyota-shi, 29-III-2013, K. Ogata leg.; 1♀, Kamogawa-cho, Toyota-shi, 9-VI-2013, K. Ogata leg.; 1♀ 1♂, Ikuma-jinja, Ikuma-cho, Toyota-shi, 16-V-2013, 1♀, 27-IX-2014, K. Ogata leg.; 1♂, Onuma-cho, Toyota-shi, 10-V-2014, K. Ogata leg.; 1♀, Oro-cho, Okazaki-shi, 13-V-2011, 3♀, 14-IV-2013, K. Ogata leg.; 1♀juvenile, Kitayama, Ikegane-cho, Okazaki-shi, 12-I-2013, 1♀, 14-IV-2013, K. Ogata leg.; 1♀, Muramizuyama, Okuyamada-cho, 27-IX-2013, K. Ogata leg.; 1♀, Shin-ike, Iwafuji-cho, Nisshin-shi, 15-V-2011, K. Ogata leg.; 1♀, Hayashi, Kitashin-cho, Nisshin-shi, 27-III-2013, K. Ogata leg.; 1♂, Hakusangu, Hongo-cho, Nisshin-shi, 4-IV-2013, K. Ogata leg.; 1♀, Takamatsu, Orito-cho, Nisshin-shi, 10-IV-2013, K. Ogata leg.; 1♀, Suse, Suse-cho, Toyohashi-shi, 13-V-2013, K. Ogata leg.; 2♀1♂, Mt. Funatsuki-yama, Hiyoshi, Shinshiro-shi, 28-III-2015, K. Ogata leg.; 3♀1♂, Nishiachiwa-cho, Okazaki-shi, 9-XII-2015, K. Ogata leg. GIFU: 1♀, Kami-ishizu-cho, Ogaki-shi, 2-XI-2013, M. Yoshida leg. OKAYAMA: 1♀, Kita-kijima-cho, Kasaoka-shi, 4-VI-2006, K. Nojima leg. OKINAWA: 1♀, Haemi, Iriomote-jima Island, Taketomi-cho, 16-IV-2013, K. Ogata leg.

Distribution. Japan: Honshu (Fukushima, Tokyo, Kanagawa, Yamanashi, Aichi, Gifu and Okayama Prefectures) and the Ryukyus (Iriomote-jima Island, Okinawa Prefecture).

Etymology. The specific name is dedicated to Mr. Miyoshi Sadamoto, Chiba, who collected many specimens of this new species including the holotype.

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